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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,847	11/28/2001	Roman Z. Arkiszewski	Arkiszewski 1/AGER029	8453
22186	7590	10/18/2005	EXAMINER	
MENDELSON AND ASSOCIATES, P.C. 1500 JOHN F. KENNEDY BLVD., SUITE 405 PHILADELPHIA, PA 19102			FAN, HONGMIN	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/994,847	<b>Applicant(s)</b> ARKISZEWSKI, ROMAN Z.	
	<b>Examiner</b> Hongmin Fan	<b>Art Unit</b> 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11/28/2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities: on page 2 paragraph 17, line 19, PFD 103 should be – PFD 104 --.

Appropriate correction is required.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: in Fig 2, VCO was not marked as 105 as referred in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure Fig. 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2, 9, 11, 12, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Andoh (US Patent 5,461,344).

As to claim 1, referring to Fig. 4, Andoh teaches phase locked loop with two loop filters in which the first loop filters F1 performs coarse adjustment to control a voltage controlled oscillator (see Abstract, line 6).

As to claim 2, referring to Fig. 4, Andoh discloses two switches 107 and 114 being used to connect and disconnect the first loop filter from a frequency synthesis section (column 5, lines 44-46 and column 6, lines 41-42).

As to claim 9, referring to Fig. 4, Andoh discloses a voltage controlled oscillator with a frequency fine control data (i.e. fine-tuning adjustment) to the control voltage (Abstract, lines 8-9).

As to claim 11, it is for the same reason as it has been discussed above for the claim 1.

As to claim 12, it is for the same reason as it has been discussed above for the claim 2.

As to claim 16, it is for the same reason as it has been discussed above for the claim 9.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-8, 10, 13-15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andoh (US Patent 5,461,344) in view of Andrews (US Patent 6,509,806).

As to claims 3, Andoh discloses all the subject matter claimed, see above, except for explicitly pointing out that the frequency control comprises an integrated circuit. One of ordinary skill in the art clearly recognizes that the integrated circuits are used ubiquitously in today's circuitry. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to utilize integrated circuit to save space and reduce cost and energy consumption.

As to claims 4, Andoh discloses all the subject matter claimed, see above, except for the first tuning section. However, referring to Fig. 3 and 4, Andrews (US Patent 6,509,806) discloses a VCO with voltage tune 300 or 400, which adapted to produce a voltage signal  $V_{out}$  312 or 412. Although Andrews did not mention specifically the amplified voltage signal, one of ordinary skill in the art clearly recognizes that when the circuit is tuned to a specific signal it amplifies the tuned signal and attenuates all other signals. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine Andoh's switching technique with Andrews's voltage tuner 300 to achieve the same result as proposed by the applicant.

As to claims 5, Andoh discloses all the subject matter claimed, see above, except for the second tuning section. However, referring to Fig. 3 and 4, Andrews (US Patent 6,509,806) discloses a VCO with voltage tuner 300 (column 2, line 58), which includes an op-amp 302 to take a voltage signal  $V_{tune}$ . Therefore, it would have been obvious to

one of ordinary skill in the art at the time of invention to combine Andoh's switching technique with Andrews's voltage tuner 300 to achieve the same result as proposed by the applicant.

As to claims 6, Andoh discloses all the subject matter claimed, see above, except for a digital-to-analog converter and a first operational amplifier. However, referring to Fig. 3, Andrews (US Patent 6,509,806) discloses a VCO with voltage tuner 300 which includes a digital-to-analog converter 308 except the operational amplifier. But, one of ordinary skill in the art clearly recognizes that an amplifier can be readily used to amplify the signal in this case. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine Andoh's invention with Andrews's technique plus an amplifier to achieve the same result as proposed by the applicant.

As to claims 7, Andoh discloses all the subject matter claimed, see above, except for an analog-to-digital converter and a second operational amplifier. However, referring to Fig. 3, Andrews (US Patent 6,509,806) discloses a VCO with voltage tuner 300 which includes an analog-to-digital converter 304 and an operational amplifier 302. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine Andoh's invention with Andrews's technique to achieve the same result as proposed by the applicant.

As to claims 8, Andoh discloses all the subject matter claimed, see above, except for the look-up table. However, referring to Fig. 3 and 4, Andrews (US Patent 6,509,806) discloses a VCO with voltage tuner 300, which includes a look-up table 306 or 406 (column 2, lines 65-67) adapted to store the voltage converted by the ADC.

As to claim 10, Andoh discloses all the subject matter claimed, see above, except for the first and second tuning sections. However, referring to Fig. 3, Andrews discloses a VCO with voltage tune 300, which includes two sections 304 and 308. What Andrews did not disclose is that both circuits are to produce and sense a plurality of the voltage signals. However, one of ordinary skill in the art clearly recognizes that if a circuit, i.e. D/A converter, can produce one voltage signal, it could easily produce a plurality of voltage signals when fed with different inputs. In the same token, if a circuit, i.e. op-am plus A/D converter, can sense one voltage, it could sense a plurality of control signal easily. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to extend the circuits to include the function of producing and sensing a plurality of control voltages.

As to claim 13, it is for the same reason as it has been discussed above for the claim 4.

As to claim 14, it is for the same reason as it has been discussed above for the claim 5.

As to claim 15, it is for the same reason as it has been discussed above for the claim 8.

As to claim 17, it is for the same reason as it has been discussed above for the claim 10.

### ***Conclusion***



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hongmin Fan whose telephone number is 571-272-2784. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hongmin Fan  
Examiner  
Art Unit 2631

  
**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**